

# Yet Another Note: Asset Returns and Economic Growth: The Econ 1 Version

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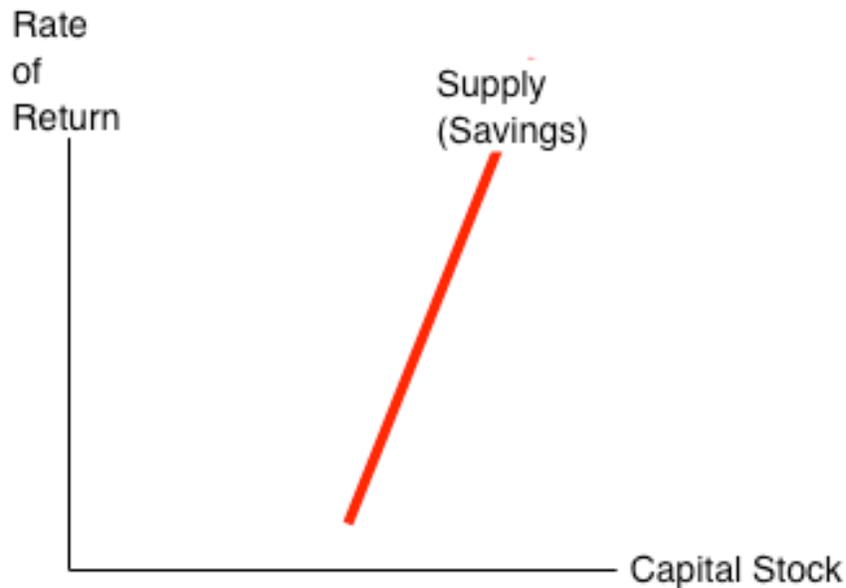
That a decline in economic growth is likely to carry with it a decline in the rate of return on assets is obvious to me: it is an argument that does not (or should not) have to be made at a more than Economics 1 level, for all you have to do is look at the economy-wide supply of and demand for the economy's capital stock.

Consider this supply and demand for capital in generational perspective. The supply of capital—the amount of asset accumulated by savers—is presumably a normal (if probably steeply-sloped)<sup>1</sup> supply curve, with relative quantities of total savings and thus of capital on the horizontal axis, and with the price of capital—that is, its rate of return—plotted on the vertical axis.

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<sup>1</sup> The supply is likely to be steeply sloped because of opposing income and substitution effects. An increase in the rate of return increases the total lifetime wealth of savers, which presumably increases their consumption when young and so diminishes their savings. An increase in the rate of return increases the incentive to save, which presumably increases their savings. The net effect—which I believe to be positive—is probably a small one.

**Figure 1**  
**The Supply of Capital**

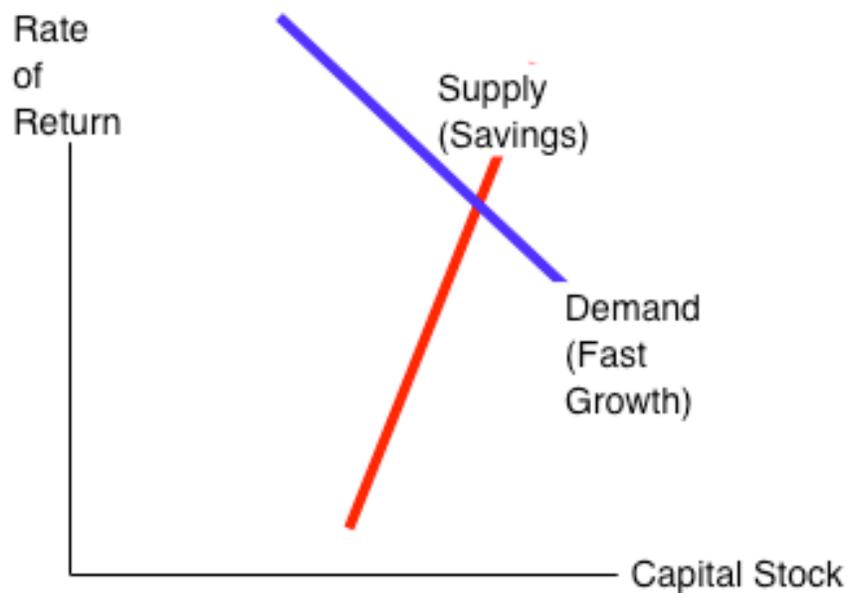


Now, still in generational perspective, let's look at the demand for capital by businesses. This demand will, of course, depend on the rate of return demanded by the savers who commit their capital to businesses: the higher is the rate of return required by savers, the lower will be business demand for capital—the more eager will businesses be to substitute labor for capital in production.

This business demand will depend on two additional factors. First, it will depend on the rate of growth of the labor force. Labor and capital are complements. A larger labor force for firms to hire will raise the marginal product of capital for any given level of the capital stock, and so make businesses willing to pay higher returns in order to get hold of capital. Second, it will depend on the rate of improvement in the economy's level of technology: better technology—also a complement to capital—will boost business

demand. So we will have an equilibrium relative quantity of capital and required rate of return paid by savers where the curves cross in Figure 2: where supply meets demand.

**Figure 2**  
**The Supply of and Demand for Capital**



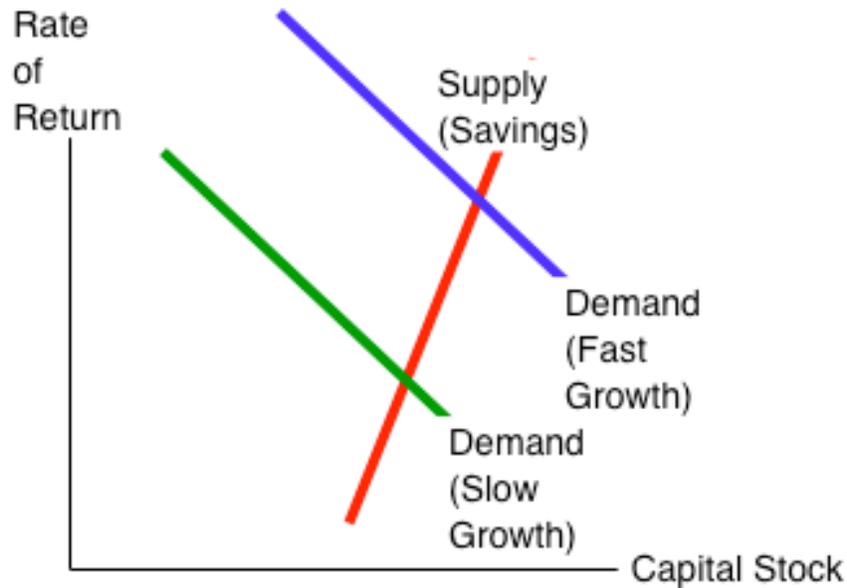
Now what is the effect of a slowdown in economic growth—either a fall in the rate at which the labor force grows, or a fall in the rate at which technology and thus equilibrium labor productivity increases—on this equilibrium? Assume that these changes do not affect the savings of the accumulating generation:<sup>2</sup> then they affect

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<sup>2</sup> In the Ramsey model, of course, a reduction in the rate of natural increase does affect the savings of the accumulating generation because of the extremely powerful bequest motives implicitly lurking behind the assumption of an

only the demand curve and not the supply curve. Each of them moves the demand curve left: fewer workers reduces the marginal product of capital and hence firm demand for capital; slower productivity growth does the same.

**Figure 3**  
**The Effect of a Slowdown in Economic Growth**



Thus a decline in the rate of economic growth is likely to carry with it a reduction in the rate of return on invested assets. Supply and demand. QED.

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infinitely-lived representative household whose utility, given consumption *per capita*, is linear in the size of the household.